

Drug Intelligence Brief



DRUG ENFORCEMENT ADMINISTRATION
INTELLIGENCE DIVISION

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HEROIN SIGNATURE PROGRAM: 1999

The Heroin Signature Program (HSP) was initiated in 1977 by the Drug Enforcement Administration (DEA) to enhance the agency's ability to identify the source of heroin seized or purchased within the United States from each of the world's major heroin source areas—South America, Mexico, Southeast Asia (SEA), and Southwest Asia (SWA). The HSP provides, at least in part, one snapshot of the U.S. wholesale heroin market.



Varieties of heroin analyzed by the Special Testing and Research Laboratory

Sixty percent of the heroin analyzed under the HSP in 1999 was from South America.¹ Not only did South American heroin have the highest average purity of all source areas, but this was the fifth consecutive year in which it accounted for the majority of the heroin analyzed under the program. Previously, SEA heroin was the most predominant; it reached its zenith in 1993 when it accounted for 68 percent of the heroin analyzed that year. By 1997, SEA heroin declined to a low of 5 percent. In 1999, SEA heroin accounted for only 10 percent of the analyzed heroin. Larger quantities of Mexican heroin were seized in 1999, and because of this, heroin from this source region accounted for 24 percent of the 1999 heroin samples by weight. Even though the purity of Mexican heroin has increased over the past several years, Mexican heroin purity still was the lowest recorded of all the source areas. Although little SWA heroin was seized and analyzed, heroin from this region was of high purity.

Heroin Source Area	Annual Percentage	Weight (kilograms)	Purity
South America	60	287.9	78
Mexico	24	115.9	42
Southeast Asia	10	48.9	73
Southwest Asia	6	26.8	73

The HSP is conducted at the DEA Special Testing and Research Laboratory. Through this program, heroin samples undergo in-depth chemical analysis and are classified according to the process by which they were manufactured. Each major heroin source area has a unique production process or signature, which determines the origin of the sample. DEA Signature Analysis is able to identify the source area for approximately 90 to 95 percent of the 750 to 900 HSP samples analyzed each year under the program. In addition to identifying the heroin source area, the HSP provides intelligence data on wholesale purity and heroin smuggling patterns into and throughout the United States.

¹ Percentage based on weight of samples for which a signature was identified. In 1999, a total of 786 heroin samples was analyzed under the HSP. A signature was established for 90 percent of the samples, which totaled 479.5 kilograms.

Heroin Signature Program
Geographic Source Area Distribution (in percent*)
Based on Net Weight of Heroin Seized

Year	Mexico	Southeast Asia	Southwest Asia	South America
1977	89	9	2	
1978	82	15	3	
1979	48	13	39	
1980	38	11	51	
1981	36	10	54	
1982	34	14	52	
1983	33	19	48	
1984	32	17	51	
1985	39	14	47	
1986	42	22	36	
1987	42	25	33	
1988	29	46	25	
1989	27	56	17	
1990	21	56	23	
1991	21	58	21	
1992	10	58	32	
1993	8	68	9	15**
1994	5	57	6	32
1995	5	17	16	62
1996	20	8	20	52
1997	14	5	6	75
1998	17	14	4	65
1999	24	10	6	60

* Percentage based on weight of samples for which a signature was identified. In 1999, 90 percent of samples were classified.

** The signature for heroin from South America was developed in July 1993; therefore, this figure represents only partial-year data.

Signature analysis is the only scientifically based source of information currently used to determine the origin of heroin entering the U.S. drug market. HSP data is reported annually and provide the basis of percentages for both the number of seizures from each source area as well as the net weight of heroin seized from each area. The program is continually validated by associating source country authentic samples and intelligence reporting with the results of chemical analysis.

Data from the HSP must be used in conjunction with investigative intelligence and with drug production and seizure data to develop an overall assessment of the trafficking of heroin to and within the United States. Fluctuations from year to year in the proportion from each source area may reflect shifting law enforcement priorities, significant seizures, as well as changing patterns. For example, because HSP data are derived primarily from seizures, HSP findings may reflect law enforcement priorities and opportunities, as in the numerous, small-quantity heroin seizures from Colombian as well as from Nigerian air couriers. Moreover, large seizures of heroin from one source area may boost that source area's representation in the HSP. For example, this may be especially applicable to heroin from Southeast and Southwest Asia traditionally smuggled in large, multi-kilogram quantities.

This report was prepared by the Domestic Strategic Unit (NDAS) of the Office of Domestic Intelligence. Comments and requests for copies are welcome and may be directed to the Intelligence Production Unit, Intelligence Division, DEA Headquarters, at (202) 307-8726.